

IN THE CLAIMS:

Claims 1-20 are set forth below as follows:

1. (Original) A method for manufacturing a lead body comprising the steps of:
preparing a first layer unitary body comprising a first plurality of conductors;
placing at least one conductor of a second plurality of conductors on said first layer unitary body; and
forming a lead body assembly, wherein the formed lead body assembly comprises a unitary wall and wherein the first plurality of conductors and the at least one conductor of a second plurality of conductors are within the unitary wall.
2. (Original) The method as claimed in Claim 1 wherein the forming step further comprises using extrusion material in the lead body assembly.
3. (Original) The method as claimed in Claim 1 wherein the at least one conductor of a second plurality of conductors is coated with a first extrusion material.
4. (Original) The method as claimed in Claim 1 further comprising the step of placing an inner extrusion layer on the first layer unitary body.

5. (Original) The method as claimed in Claim 1 further comprising the step of placing an outer extrusion layer on the at least one conductor of a second plurality of conductors.
6. (Original) The method as claimed in Claim 4 further comprising the step of placing an outer extrusion layer on the at least one conductor of a second plurality of conductors.
7. (Original) The method as claimed in Claim 6 wherein the inner extrusion layer and the outer extrusion layer are comprised of the same extrusion material.
8. (Original) The method as claimed in Claim 1 wherein the step of preparing further comprises the step of placing the first layer unitary body comprising a first plurality of conductors on a mandrel.

9. (Original) The method as claimed in Claim 2 wherein the forming step further comprises the steps of:

placing heat shrink tubing over the lead body assembly;

heating the lead body assembly to melt the extrusion material in the lead body assembly;

compressing the melted extrusion material around the at least one conductor of the second plurality of conductors in the lead body assembly;

cooling the lead body assembly to form the lead body; and

removing the heat shrink tubing from the lead body.

10. (Original) A lead for implantation into a human body, the lead comprising:

a unitary lead body assembly comprising:

a unitary wall having an inner portion that forms a lumen;

an inner layer having at least one conductor; and

an outer layer having at least one conductor, wherein the inner layer and the outer layer are within the unitary wall;

at least one electrode located at a distal end of the lead body; and

at least one connector located at a proximal end of the lead body, wherein the at least one connector and the at least one electrode are connected by at least one conductor.

11. (Original) The lead as claimed in Claim 10 wherein the unitary wall is comprised of extrusion material.
12. (Original) The lead as claimed in Claim 10, wherein no electrical insulation material is between the conductors and the unitary wall.
13. (Original) The lead as claimed in Claim 10, wherein the diameter of the lead is no greater than 34 French.
14. (Original) The lead as claimed in Claim 13, further comprising at least five electrodes.

15. (Original) A system for stimulating a portion of a body, wherein the system comprises:
a source for generating a stimulus; and
a lead for receiving the stimulus from the source, wherein the lead comprises:
a unitary lead body assembly comprising:
a unitary wall having an inner portion that forms a lumen;
an inner layer having at least one conductor; and
an outer layer having at least one conductor, wherein the inner layer and the outer layer are within the unitary wall;
at least one electrode located at a distal end of the lead body; and
at least one connector located at a proximal end of the lead body, wherein the at least one connector and the at least one electrode are connected by at least one conductor.
16. (Original) The system as claimed in Claim 15, wherein the unitary wall comprises extrusion material.
17. (Original) The system as claimed in Claim 15, wherein no electrical insulation material is between the conductors and the unitary wall.

18. (Original) The system as claimed in Claim 15, wherein the diameter of the lead is no greater than 34 French.
19. (Original) The system as claimed in Claim 15, wherein the lead comprises at least five electrodes.
20. (Original) The system as claimed in Claim 15 wherein the conductors are spirally wound around the lumen.

Please add new Claims 21 through 36 as follows:

21. (New) A method for manufacturing a lead body comprising the steps of:
preparing a first layer unitary body comprising a first plurality of conductors;
placing at least one conductor of a second plurality of conductors on said first layer unitary body; and
placing extrusion material over the at least one conductor of the second plurality of conductors to form a lead body assembly.
22. (New) The method as claimed in Claim 21 further comprising the steps of:
placing heat shrink tubing over the lead body assembly;
heating the lead body assembly to melt the extrusion material in the lead body assembly;
compressing the melted extrusion material around the at least one conductor of the second plurality of conductors in the lead body assembly;
cooling the lead body assembly to form the lead body; and
removing the heat shrink tubing from the lead body.
23. (New) The method as claimed in Claim 21 wherein said at least one conductor of said second plurality of conductor is coated with a layer of extrusion material.

24. (New) A method for manufacturing a lead body comprising the steps of:
- preparing a first layer unitary body comprising a first plurality of conductors; and
 - placing at least one conductor of a second plurality of conductors coated with a layer of extrusion material on the first layer unitary body.
25. (New) A lead body assembly comprising:
- a first layer unitary body comprising a first plurality of conductors;
 - an inner layer of extrusion material on the first unitary body;
 - a second plurality of conductors wherein each conductor of the second plurality of conductors is coated with a layer of extrusion material and wherein each conductor of the second plurality of conductors is placed on the inner layer of extrusion material; and
 - an outer layer of extrusion material placed over the second plurality of conductors.
26. (New) A lead body assembly as claimed in Claim 25 that has been subjected to heat and compression to form a lead body.

27. (New) A system for stimulating a portion of a body, wherein the system comprises:
- a source for generating a stimulus; and
 - a lead for receiving the stimulus from the source, wherein the lead comprises a lead body formed from a lead body assembly comprising:
 - a first layer unitary body comprising a first plurality of conductors;
 - an inner layer of extrusion material on the first unitary body;
 - a second plurality of conductors wherein each conductor of the second plurality of conductors is coated with a layer of extrusion material and wherein each conductor of the second plurality of conductors is placed on the inner layer of extrusion material; and
 - an outer layer of extrusion material placed over the second plurality of conductors.
28. (New) A method of manufacturing a lead body comprising the steps of:
- placing on a mandrel a first layer unitary body comprising a first plurality of conductors; and
 - placing at least one conductor of a second plurality of conductors coated with a layer of extrusion material on said first layer unitary body to form a lead body assembly.

29. (New) The method as claimed in Claim 28 further comprising the steps of:
- placing heat shrink tubing over the lead body assembly;
 - heating the lead body assembly to melt the extrusion material in the lead body assembly;
 - compressing the melted extrusion material around the at least one conductor of the second plurality of conductors coated with a layer of extrusion material in the lead body assembly;
 - cooling the lead body assembly to form the lead body; and
 - removing the heat shrink tubing from the lead body.
30. (New) The method of manufacturing a lead body as claimed in Claim 28 further comprising the steps of:
- placing an inner layer of extrusion material on the first layer unitary body; and
 - placing at least one conductor coated with a layer of extrusion material on the inner layer to form a lead body assembly.

31. (New) The method as claimed in Claim 30 further comprising the steps of:
- placing heat shrink tubing over the lead body assembly;
 - heating the lead body assembly to melt the extrusion material in the lead body assembly;
 - compressing the melted extrusion material around the at least one conductor of the second plurality of conductors coated with a layer of extrusion material in the lead body assembly;
 - cooling the lead body assembly to form the lead body; and
 - removing the heat shrink tubing from the lead body.
32. (New) The method of manufacturing a lead body as claimed in Claim 30 further comprising the step of:
- placing an outer layer of extrusion material on the at least one conductor of the second plurality of conductors coated with a layer of extrusion material to form a lead body assembly.

33. (New) The method as claimed in Claim 32 further comprising the steps of:
- placing heat shrink tubing over the lead body assembly;
 - heating the lead body assembly to melt the extrusion material in the lead body assembly;
 - compressing the melted extrusion material around the at least one conductor of the second plurality of conductors coated with a layer of extrusion material in the lead body assembly;
 - cooling the lead body assembly to form the lead body; and
 - removing the heat shrink tubing from the lead body.
34. (New) The method of manufacturing a lead body as claimed in Claim 28 further comprising the step of:
- placing an outer layer of extrusion material on the at least one conductor of the second plurality of conductors coated with a layer of extrusion material to form a lead body assembly.

35. (New) The method as claimed in Claim 34 further comprising the steps of:
- placing heat shrink tubing over the lead body assembly;
 - heating the lead body assembly to melt the extrusion material in the lead body assembly;
 - compressing the melted extrusion material around the at least one conductor of the second plurality of conductors coated with a layer of extrusion material in the lead body assembly;
 - cooling the lead body assembly to form the lead body; and
 - removing the heat shrink tubing from the lead body.
36. (New) A lead body comprising:
- a first layer unitary body comprising a first plurality of conductors; and
 - a second plurality of conductors in which each conductor of the second plurality of conductors is coated with a layer of extrusion material.